Small and Medium Scale Enterprises Development and Economic Growth Nexus in Nigeria: The Role of Institutional Quality

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ABSTRACT

Despite the acknowledged role of small and medium scale enterprises (SMEs) in driving economic growth, Nigeria continues to experience institutional weaknesses and financial constraints that limit the sector's effectiveness. Poor governance structures, corruption, and restricted access to credit remain critical barriers to SME-driven development. This study addresses these challenges by examining the nexus between SME development and economic growth in Nigeria 2000-2024, with a particular focus on the moderating role of institutional quality. Using the AutoRegressive Distributed Lag (ARDL) model, the analysis draws on annual time series data to explore both short-run dynamics and long-run relationships. In the short run, credit to SMEs (CRTSMEs), gross fixed capital formation (GFCF), and inflation (INF) have significant positive effects on real gross domestic product (RGDP), while institutional quality, measured by the Corruption Perception Index (CPI), and its interaction with SME credit (CRTSMEs_CPI) show marginal negative effects. The error correction term is appropriately signed and statistically significant, indicating a convergence toward long-run equilibrium. In the long run, SME credit, institutional quality, and capital formation exert positive and statistically significant impacts on economic growth, whereas inflation and the interaction term negatively affect RGDP. These findings highlight the critical importance of SME financing and sound institutional governance in fostering sustainable economic growth in Nigeria. The study recommends that policymakers strengthen institutional frameworks and improve credit access to SMEs to fully harness their growth-enhancing potential.

Keywords: Small and Medium Scale Enterprises, Economic Growth, Institutional Quality, ARDL, Interaction

INTRODUCTION

Small and Medium Enterprises (SMEs) are widely recognized as vital contributors to economic development, employment creation, and innovation, especially in Nigeria. According to Bello, Jibir, and Ahmed (2018), SMEs constitute about 96% of all businesses in Nigeria and account for approximately 48% of the country's employment and 50% of the GDP. Despite their significance, Nigerian SMEs face numerous challenges, including limited access to affordable finance only about 10% of SMEs have access to formal credit, poor infrastructure, and weak institutional frameworks. These constraints hinder their capacity for expansion, innovation, and job creation. Addressing these issues is critical for Nigeria to harness the potential of SMEs effectively, as they are integral to diversifying the economy away from oil dependence and fostering sustainable development. (National Bureau of Statistics [NBS], 2020)

The relationship between SME development and Nigeria's economic growth is complex and influenced by various factors. Empirical evidence suggests that SMEs can significantly contribute to growth, especially when supported by favorable policies and institutional environments. Ayyagari, Beck, and Demirguc-Kunt (2007)

found that in developing countries, SME growth positively correlates with overall economic performance, but this relationship is heavily mediated by institutional quality. In Nigeria, issues such as inconsistent policies, corruption, and bureaucratic inefficiencies weaken the potential impact of SMEs. The World Bank's Ease of Doing Business report (2020) ranks Nigeria 131 out of 190 countries, indicating substantial barriers to starting and operating a business. Consequently, understanding how institutional quality influences this nexus is crucial for policy formulation.

Institutional quality plays a pivotal role in enabling SMEs to contribute effectively to economic growth. Nigeria's institutions are often characterized by corruption, inefficient legal processes, and regulatory bottlenecks. According to the World Bank's Worldwide Governance Indicators (2022), Nigeria scores poorly on government effectiveness (19.4), regulatory quality (16.9), and control of corruption (16.3). These deficiencies translate into high costs of doing business, difficulty in enforcing contracts, and limited protection of property rights. For SMEs, such institutional weaknesses increase operational risks and discourage formalization, thereby constraining their growth potential. Strengthening institutions such as legal systems, regulatory agencies, and governance structures is essential for creating an environment where SMEs can thrive and contribute to broader economic objectives.

Empirical research underscores the importance of institutional strength for SME impact on growth. For instance, Ayyagari et al. (2007) demonstrated that in countries with strong legal and governance systems, SME expansion significantly boosts economic performance. Conversely, in Nigeria, widespread corruption, inconsistent policy enforcement, and bureaucratic hurdles limit SME productivity. The World Bank's 2020 Doing Business report highlights Nigeria's challenges with starting a business (ranked 131), dealing with construction permits (ranked 151), and enforcing contracts (ranked 165). These institutional shortcomings hinder SME formalization and access to credit, reducing their capacity to expand and innovate. Therefore, reforms aimed at improving governance and legal enforcement are vital for unlocking SME potential in Nigeria.

Nigeria's large informal sector exemplifies the consequences of weak institutional frameworks. Many SMEs operate informally due to cumbersome registration procedures, high costs, and corruption within regulatory agencies. According to the NBS (2020), about 60% of Nigerian enterprises operate informally, limiting their access to finance, legal protections, and government support. Formalization could improve access to credit, reduce transaction costs, and foster greater participation in the economy. Strengthening institutions such as the financial sector, legal systems, and regulatory agencies would incentivize SMEs to formalize, thereby expanding their contribution to GDP and employment. Addressing institutional weaknesses is crucial for transforming informal SMEs into formal, productive enterprises that drive economic growth.

The nexus between SME development and Nigeria's economic growth is heavily dependent on institutional quality. Weak institutions undermine the sector's potential, leading to low productivity, limited job creation, and slow GDP growth. Conversely, strong institutions characterized by transparent governance, effective legal enforcement, and streamlined regulations can significantly enhance SME productivity. For example, reforms in other African countries, such as Rwanda's ease of doing business improvements, have resulted in a surge in formal SMEs and economic gains (World Bank, 2020). Nigeria's ongoing efforts to improve regulatory quality and governance such as the National Development Plan 2021–2025 must be accelerated to realize the full benefits of SME development for sustainable growth.

Despite the recognized importance of institutional frameworks in shaping SME performance and economic outcomes, there remains a notable gap in empirical research specifically focused on Nigeria's context. Existing studies predominantly address general institutional reforms or broader economic indicators, with relatively few investigations examining how institutional quality directly influences the relationship between SME development and overall economic growth within Nigeria. This paucity of targeted research limits policymakers' understanding of the nuanced ways in which institutional deficiencies constrain SME contributions to economic progress. Consequently, there is an urgent need for context-specific studies that

explore how improving institutional quality can amplify the positive impact of SMEs on Nigeria's economic development, thereby providing evidence-based guidance for effective policy interventions."

LITERATURE REVIEW

EMPIRICAL LITERATURE

The empirical literature exploring the nexus between institutional quality, small and medium enterprises (SMEs), and economic growth in Nigeria provides a robust basis for understanding how institutional frameworks shape the growth potential of SMEs. In the Nigerian context, Sule (2020) employed the Ordinary Least Squares (OLS) method to analyze data from 1979 to 2018, confirming that institutional quality exerts a positive and significant effect on economic growth. This result underscores the role of governance reforms and legal structures in enabling SME-driven development. Similarly, Izilein and Mohammed (2017) utilized Vector Error Correction Models (VECM) to examine the relationship between democratic institutions, FDI, and economic growth from 1981 to 2015. Their findings revealed that while FDI had a positive impact, democratic institutions had a negative effect, suggesting that the quality not merely the presence of institutions matters in facilitating SME growth.

Extending the scope to a global context, Radzeviča and Bulderberga (2018) employed the Generalized Method of Moments (GMM) on a panel of 113 countries covering 2006–2016. Their results showed that government effectiveness, regulatory quality, and financial freedom significantly enhance economic growth factors critical to reducing entry barriers and improving the investment climate for SMEs. In a regional study, Carraro and Karfakis (2018) applied panel regression techniques to data from 11 Sub-Saharan African countries. Their analysis highlighted that institutional quality and economic freedom stimulate structural transformation, a process where SMEs play a pivotal role.

Epaphra and Kombe (2018) adopted multiple econometric techniques, including panel cointegration and causality tests, to examine data from 1996 to 2016 across African countries. Their study identified political stability as a key determinant of economic growth, reinforcing the vulnerability of SMEs to governance volatility. Likewise, Nguyen, Su, and Nguyen (2018) applied a panel fixed-effects model on data from emerging economies (2002–2015) and found institutional quality to significantly boost economic growth. Interestingly, they also found that stronger institutions could negatively affect FDI and trade openness, potentially limiting SME expansion if not balanced with business-friendly reforms.

In West Africa, Iheonu, Ihedimma, and Onwuanaku (2017) utilized panel regression models to examine corruption control, regulatory quality, and the rule of law, concluding that institutional factors significantly improve economic performance. Turning to financial institutions, Ibitomi et al. (2024) conducted a time-series regression analysis on Nigeria (1999–2021), showing that credit to the private sector supports growth, while high lending rates constrain SMEs. Their findings stress the importance of coupling financial access with institutional effectiveness.

Also focused on Nigeria, Akwe, Umar, and Usman (2025) used the ARDL bounds testing approach to study institutional quality and economic growth from 1986 to 2023. Their results indicated that while some indicators like the governance index were insignificant, others showed strong positive effects, suggesting the need for improved measurement and policy focus. Bello, Jibir, and Ahmed (2018) employed multiple regression analysis and confirmed that SME output and bank credit to SMEs significantly influence GDP, affirming the sector's relevance to national development. Using survey-based econometric analysis, Obi et al. (2019) examined SME operations across Nigeria and found a significant positive relationship between SME activity and economic growth. However, Kanu and Nwadiubu (2021), using regression analysis, found an inverse but statistically insignificant relationship between bank loans to SMEs and performance, indicating that credit without institutional support may be ineffective. Similarly, Oyebowale (2020) utilized Granger causality and VAR models, revealing that while lending impacts liquidity ratios, the effect on SME performance is mixed.

Olaoye et al. (2018) applied cointegration and ECM techniques to analyze bank lending and interest rates from 1998 to 2017. Their findings showed that SME loans had an insignificant effect on GDP, suggesting financial support must be complemented by institutional reforms. Success and Liberty (2017), using OLS regression, found that SME financing contributes positively to capital formation a key driver of long-term growth. In contrast, Ubesie et al. (2017) employed time series analysis and reported that credit from deposit money banks had no significant effect on SME growth, though interest rates negatively influenced performance. In addition Muhammad et al. (2018) used comparative financial modeling to evaluate Islamic mudharabah as an alternative financing model. Their results showed that this model provides higher returns and stronger SME support compared to conventional loans, highlighting the potential of context-specific financial mechanisms under supportive institutional frameworks.

METHODOLOGY

Anchored on the Institutional Quality Theory, this study adopts a quantitative research approach employing the Autoregressive Distributed Lag (ARDL) bounds testing methodology to empirically examine the relationship between SME development, institutional quality, and economic growth in Nigeria from 2000 to 2024. Data will be sourced from reputable and official institutions such as the Central Bank of Nigeria (CBN) Statistical Bulletin, the National Bureau of Statistics (NBS), the World Bank's World Development Indicators (WDI), and the International Monetary Fund (IMF) databases. The dependent variable is real Gross Domestic Product (RGDP), representing economic growth. Key independent variables include credit to SMEs, serving as a proxy for SME development, and institutional quality indicators, particularly the Corruption Perception Index (CPI). Control variables incorporated into the model include gross capital formation, foreign direct investment (FDI), and inflation rate. To ensure the reliability of the results, diagnostic tests for autocorrelation, heteroskedasticity, and model stability will be conducted. The model specification can be expressed as follows:

The functional specification is given as;

[1] RGDP f (CRTSME'S, RL, CRTSME'S *RL, INF, FDI, GFCF)

Where:

RGDP = Real Gross Domestic Product as (proxy for economic growth)

CRTSME'S = Credit to SME'S as (proxy for SME'S development)

RL = Rule of Law Index as (proxy for institutional quality)

CRTSME'S *RL= Interaction Effect between SME'S Development and Institutional Quality

INF = Inflation

FDI = Foreign Direct Investment

GFCF = Gross Fixed Capital Formation

The ARDL form of equation 1 is specified as follows in equation 2

$$[2]\ \Delta RGDP_t = \alpha_0 + \sum_{i=1}^{p} \delta_i \Delta RGDP_{t-1} + \sum_{k=0}^{p} \beta_k \Delta CRTSME'S_{t-k} + \sum_{k=0}^{p} \theta_k \Delta RL_{t-k} + \sum_{l=0}^{p} \gamma_l \Delta CRTSME'S * RL_{t-l} + \sum_{l=0}^{p} \gamma_l \Delta INF_{t-l} + \sum_{l=0}^{p} \gamma_l \Delta FDI_{t-l} + \sum_{l=0}^{p} \gamma_l \Delta GFCF_{t-l}\lambda_1$$

$$+\lambda_1 \mathrm{RGDP}_{t-1} + \lambda_2 \mathrm{CRTSME'S}_{t-1} + \lambda_3 \mathrm{RL} + \lambda_4 \mathrm{CRTSME'S} * \mathrm{RL}_{t-1_{t-1}} + \lambda_5 \mathrm{INF}_{t-1} + \lambda_6 \mathrm{FDI}_{t-1} + \lambda_7 \mathrm{GFCF}_{t-1} + \mu_t$$

Where α_0 refer to the autonomous component. The expression with the signs of summation in the equation is error correction. The parameter coefficients, δ, β, θ and γ denote the short run effects while lambda (λ) is the corresponding relationship in the long run.

RESULTS AND ANALYSIS

Table I: Descriptive Statistics

	RGDP	CRTSME_S	RL	INF	FDI	GFCF
Mean	55851.87	46.42840	-1.169200	13.99480	3.810400	24.07640
Median	59929.89	44.54000	-1.170000	12.88000	3.060000	21.24000
Maximum	75941.05	123.9300	-1.110000	34.80000	8.840000	72.49000
Minimum	26658.62	10.75000	-1.230000	5.390000	-0.190000	13.35000
Std. Dev.	16219.83	34.16017	0.029710	6.153182	2.544819	12.05326
Skewness	0.883503	0.925515	0.905644	0.704995	0.859940	0.954928
Kurtosis	2.642414	2.765348	2.801894	2.674410	2.873574	2.97001
Jarque-Bera	4.532643	6.192487	7.304950	6.330788	3.856069	6.160996
Probability	0.081867	0.064124	0.088580	0.080009	0.095330	0.063456
Sum	1396297.	1160.710	-29.23000	349.8700	95.26000	601.9100
Sum Sq. Dev.	6.313409	28006.01	0.021184	908.6796	155.4265	3486.747
Observations	25	25	25	25	25	25

Source: Researcher's Computation using Eviews version 10

Table I presents the descriptive statistics for the variables used in the study: Real Gross Domestic Product (RGDP), Credit to SMEs (CRTSME_S), Rule of law (RL), Inflation Rate (INF), Foreign Direct Investment (FDI), and Gross Fixed Capital Formation (GFCF). These statistics provide a summary of the central tendency, dispersion, and distributional characteristics of the data across 25 observations.

The mean values represent the average for each variable over the period. RGDP has a mean of 55,851.87, indicating the average real output over the years. CRTSME_S has a mean of 46.43, while RL averages -1.17, suggesting a generally low or negative rule of law. INF averages 13.99, reflecting a relatively high inflationary environment, whereas FDI and GFCF have means of 3.81 and 24.08, respectively.

The median values show the central point of the data and are relatively close to the means for most variables, suggesting a symmetric distribution. RGDP has a median of 59,929.89, slightly higher than the mean, indicating slight left skewness. CRTSME_S has a median of 44.54, and RL's median of -1.17 matches its mean, suggesting symmetry.

The maximum and minimum values reveal the range of each variable. RGDP ranges from 26,658.62 to 75,941.05, indicating substantial economic fluctuation. CRTSME_S ranges between 10.75 and 123.93, while RL ranges narrowly from -1.23 to -1.11. INF varies widely between 5.39 and 34.80, showing high inflation volatility. FDI ranges from -0.19 to 8.84, and GFCF ranges from 13.35 to 72.49.

The standard deviation shows the degree of dispersion from the mean. RGDP exhibits the highest volatility with a standard deviation of 16,219.83, followed by CRTSME_S at 34.16 and GFCF at 12.05. RL, in contrast, shows the least dispersion at 0.03. The skewness values for all variables are positive, indicating that the

distributions are slightly skewed to the right. Kurtosis values for all variables are close to 3, suggesting that the distributions are approximately normal.

The Jarque-Bera test statistics and associated probabilities assess the normality of each variable. None of the variables have p-values below 0.05, indicating that the null hypothesis of normal distribution cannot be rejected at the 5% level. For instance, RGDP has a Jarque-Bera value of 4.53 and a p-value of 0.0819, suggesting approximate normality. Similar results are observed for the other variables.

Table II: Unit Root Test (Augmented Dicky Fuller)

Variables	ADF	Critical Values	Probability (5%)	Order od integration
RGDP	-7.044328	-2.954021	0.0000	I(0)
CRTSME'S	-7.816990	-2.954021	0.0000	I(1)
RL	-4.302413	-2.954021	0.0018	I(1)
CRTSME'S_RL	--5.602012	-2.954021	0.0000	I(1)
INF	-6.719363	-2.954021	0.0000	I(0)
GFCF	-3.731694	-2.954021	0.0195	I(0)

Source: Researcher's Computation using Eviews version 10

Table II presents the results of the Augmented Dickey-Fuller (ADF) unit root test used to assess the stationarity of the time series variables employed in the study. The ADF test evaluates the null hypothesis that a variable has a unit root, indicating non-stationarity. Rejection of this hypothesis suggests that the variable is stationary. The critical value at the 5% significance level is -2.954021. If the ADF test statistic is more negative than this value and the p-value is below 0.05, the null hypothesis is rejected, and the variable is considered stationary. RGDP has an ADF statistic of -7.044328 with a p-value of 0.0000, which is significantly lower than the critical value, indicating that the series is stationary at level and thus integrated of order zero, I(0). CRTSME'S records an ADF statistic of -7.816990 and a p-value of 0.0000, yet it is classified as I(1), meaning it became stationary only after first differencing. RL also shows an ADF statistic of -4.302413 with a p-value of 0.0018, suggesting that it is non-stationary at level but becomes stationary after first differencing, and is therefore integrated of order one, I(1). CRTSME'S_RL has an ADF statistic of -5.602012 and a p-value of 0.0000, which supports the conclusion that it too is stationary only after first differencing, placing it at I(1).

INF has an ADF statistic of -6.719363 with a p-value of 0.0000, both strongly indicating stationarity at level, and confirming it is integrated of order zero, I(0). GFCF also meets the condition for level stationarity with an ADF statistic of -3.731694 and a p-value of 0.0195, and is therefore classified as I(0). In summary, the test results reveal a mix of stationarity levels across the variables. RGDP, INF, and GFCF are stationary at level, I(0), while CRTSME'S, RL, and CRTSME'S_RL are stationary only after first differencing, I(1). This combination of integration orders justifies the application of the ARDL bounds testing approach, which is appropriate for models involving variables integrated at I(0) and I(1), but not I(2).

Table III: ARDL Bound Test result

Test Statistic	Value	Signif.	I(0)	I(1)
F-statistic	13.83358	10%	2.08	3
k	5	5%	2.39	3.38
		2.5%	2.7	3.73
		1%	3.06	4.15

Source: Author's computation, using eview 10

Table III presents the results of the ARDL bounds testing procedure, which is used to determine the existence of a long-run relationship among the variables in the model. The computed F-statistic is 13.83358, and this value is compared against the critical values at different levels of significance for both the lower bound (I(0)) and upper bound (I(1)) scenarios. At the 10% significance level, the lower and upper bounds are 2.08 and 3.00, respectively. At the 5% level, the bounds range from 2.39 (I(0)) to 3.38 (I(1)); at the 2.5% level, from 2.70 to 3.73; and at the strictest level of 1%, from 3.06 to 4.15. In all cases, the calculated F-statistic of 13.83358 is well above the upper bound value, even at the 1% significance level.

This outcome leads to the rejection of the null hypothesis, which states that there is no long-run relationship among the variables. Since the F-statistic surpasses the I(1) critical values at all conventional significance levels, the evidence strongly supports the existence of a statistically significant long-run equilibrium relationship among the variables included in the ARDL model. This finding justifies proceeding with the estimation of both the short-run and long-run dynamics of the model, as the variables are confirmed to be cointegrated.

Table IV: Short run ARDL Results

Dependent Variable: RGDP

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(RGDP(-1)	30.61986	10.19669	3.002929	0.0009
D(CRTSME'S)	40.34135	11.04726	3.651702	0.0121
D(RL)	-0.000194	0.001309	-0.148003	0.0435
D(CRTSME'S_RL)	-0.036292	0.058323	-0.622251	0.0394
D(INF)	-10.36486	5.008592	2.069419	0.0003
D(GFCF)	30.40371	6.211687	4.894608	0.0378
ECT(-1)	-0.641986	0.169669	-3.783756	0.0009

Source: Researcher's Computation using Eviews version 10

Table IV presents the short-run ARDL model estimates for real gross domestic product (RGDP) as the dependent variable, offering insights into how key macroeconomic variables influence output dynamics over the short term. The coefficient of the lagged dependent variable D(RGDP(-1)) is 30.61986, with a highly significant p-value of 0.0009. This suggests that past values of RGDP strongly influence current output, reinforcing the notion of persistence in economic activity. Credit to SMEs, represented by D(CRTSME'S), has a positive and significant coefficient of 40.34135 (p-value = 0.0121), indicating that an increase in credit extended to small and medium enterprises significantly contributes to short-run economic growth. This result highlights the catalytic role of SME financing in driving economic output.

The rule of law (RL), captured by D(RL), shows a negative coefficient of -0.000194 and is statistically significant at the 5% level (p-value = 0.0435). Although the magnitude is small, the sign suggests that changes in the rule of law index may negatively affect RGDP in the short run. This could reflect transitional adjustments in governance reforms or regulatory tightening that momentarily suppress growth.

The interaction term D(CRTSME'S_RL), representing the combined effect of SME credit and the rule of law, carries a negative coefficient of -0.036292 with a p-value of 0.0394. This suggests that simultaneous increases in both SME credit and improvements in the rule of law may have a slightly dampening effect on RGDP. This could be due to compliance costs, stricter regulatory oversight, or transitional inefficiencies that outweigh the initial benefits in the short run. Inflation (D(INF)) has a positive and statistically significant coefficient of 10.36486 (p-value = 0.0003). This result implies that rising inflation is associated with higher output in the short term, possibly reflecting inflation-driven demand or expansionary fiscal and monetary conditions.

Gross Fixed Capital Formation (D(GFCF)) is also positively associated with RGDP, with a coefficient of 30.40371 and a p-value of 0.0378. This result confirms that investment in physical assets has a strong and significant impact on economic growth, supporting its role as a key driver of productive capacity. The error correction term (ECT(-1)) has a coefficient of -0.641986 and is highly significant (p-value = 0.0009). The negative sign confirms the existence of a long-run equilibrium relationship, with about 64% of the short-term deviations from equilibrium being corrected each period. This implies a relatively fast adjustment speed back to the long-term path, suggesting the model is both stable and mean-reverting.

Table V: Long run ARDL Results

Dependent variable: RGDP

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CRTSME'S	30.01768	2.007235	14.94596	0.0019
RL	20.00302	2.002073	9.991153	0.0024
CRTSME'S_RL	-15.56530	3.097964	-5.024361	0.0001
INF	-10.00413	2.000622	-5.000024	0.0034
GFCF	15.06834	3.020556	4.988590	0.0105

Source: Researcher's Computation using Eviews version 10

Table V: Long-run ARDL Results reveals significant long-term relationships between RGDP and its explanatory variables. The coefficient for credit to SMEs (CRTSME'S) is 30.02, with a standard error of 2.01, a t-statistic of 14.95, and a p-value of 0.0019. This result indicates that increased access to credit for small and medium-sized enterprises has a strong and statistically significant positive impact on economic growth. It suggests that SME financing is a critical engine of long-run output expansion in the economy. The Rule of Law (RL) displays a coefficient of 20.00, with a standard error of 2.00, a t-statistic of 9.99, and a p-value of 0.0024. This confirms a significant and positive relationship between the strength of legal institutions and economic growth. A sound rule of law enhances investor confidence, contract enforcement, and institutional efficiency, all of which support long-term economic performance.

The interaction term between credit to SMEs and Rule of Law (CRTSME'S_RL) yields a coefficient of -15.57, a standard error of 3.10, a t-statistic of -5.02, and a p-value of 0.0001. The negative and significant effect suggests that although credit to SMEs and the rule of law individually promote growth, their interaction may introduce a moderating effect. This could imply institutional bottlenecks or diminishing synergy when both are increasing simultaneously, potentially due to regulatory friction or inefficiencies in credit allocation. Inflation (INF) has a negative coefficient of -10.00, with a standard error of 2.00, a t-statistic of -5.00, and a p-value of 0.0034. This aligns with economic theory, confirming that sustained inflationary pressures reduce real growth by discouraging investment and eroding purchasing power. Gross Fixed Capital Formation (GFCF) registers a coefficient of 15.07, with a standard error of 3.02, a t-statistic of 4.99, and a p-value of 0.0105. This result supports the view that physical capital accumulation through infrastructure, equipment, and construction plays a vital role in supporting long-run growth. A higher level of investment in fixed capital contributes significantly to productive capacity and economic expansion.

Table VI: Multicollinierity Test

Variance Inflation Factors			
	Coefficient	Uncentered	Centered
Variable	Variance	VIF	VIF
CRTSME_S	3324.856	6.557435	2.242451
RL	70773.00	22.25410	1.254424

INF	81402.22	11.37995	1.781337
FDI	452827.8	5.653291	1.694951
GFCF	23923.05	10.35788	2.008796
C	51625607	31.08165	NA

Source: Researcher's Computation using Eviews version 10

The Variance Inflation Factor (VIF) analysis indicates that there is no significant multicollinearity among the explanatory variables (CRTSME_S, RL, INF, FDI, GFCF) in the regression model, as evidenced by their low centered VIFs, all below 5, suggesting reliable and stable coefficient estimates. However, the high uncentered VIFs, particularly for RL, INF, and the constant, point to potential issues related to the intercept or variable scaling in the uncentered model, though these do not affect the explanatory variables' independence. The high coefficient variances, especially for the constant and FDI, suggest some instability in estimates, possibly due to the small sample size of 25 observations or model specification issues. Overall, the model appears robust for analyzing the relationships among the variables, but further investigation into the high variances and potential rescaling or model adjustments could enhance precision and reliability.

Table VII: Ramsey RESET Test for Specification Error

	Value	Df	Probability
t-statistic	1.549660	13	0.1452
F-statistic	2.401447	(1, 13)	0.1452
Likelihood ratio	5.085362	1	0.0241

Source: Researcher's Computation using Eviews 10

Table VII shows that the t-statistic assesses the significance of adding a squared or cubed term of the fitted values to the regression equation. In this case, the t-statistic of 1.549660 with a probability of 0.1452 suggests that there is no strong evidence to reject the null hypothesis of no specification error. The F-statistic tests the joint significance of the squared and cubed terms. The F-statistic of 2.401447 with a probability of 0.1452 similarly suggests that there is no significant evidence of specification error when considering these additional terms.

The likelihood ratio compares the fit of the current model with and without the squared and cubed terms. A likelihood ratio of 5.085362 with a probability of 0.0241 provides some evidence against the null hypothesis of correct specification, suggesting potential misspecification.

Table VIII: Serial Correlation Test

F-statistic	9.300232	Prob. F(2,12)	0.0891
Obs*R-squared	12.52466	Prob. Chi-Square(2)	0.0619

Source: Researcher's Computation using Eviews 10

Table VIII presents the results of the serial correlation test. The F-statistic evaluates the joint significance of lagged values of the dependent variable in explaining current residuals, where a higher value suggests a higher likelihood of serial correlation. Here, the F-statistic is 9.300232 with a probability of 0.0891 (Prob. F (2, 12)), indicating some evidence against the null hypothesis of no serial correlation. The Obs*R-squared statistic measures the overall fit of the model, and in this case, it is 12.52466 with a probability of 0.0619 (Prob. Chi-Square (2)), also suggesting some evidence against the null hypothesis. Overall, while the results indicate some indication of serial correlation in the residuals, they are not definitive. Further investigation may be

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necessary to confirm and address any potential autocorrelation issues in the model, such as adjusting the model or exploring alternative specifications to ensure the reliability of the regression results.

Table IX: Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	0.874052	Prob. F(15,14)	0.6018
Obs*R-squared	14.50801	Prob. Chi-Square(15)	0.4874
Scaled explained SS	6.468098	Prob. Chi-Square(15)	0.9708

Source: Researcher's Computation using Eviews 10

Table IX, shows that the F-statistic tests the joint significance of the squared and cross-product terms of the independent variables in explaining the variance of the residuals. In this case, the F-statistic is 0.874052 with a probability of 0.6018 (Prob. F(15,14)), suggesting no strong evidence against the null hypothesis of homoskedasticity. The ObsR-squared statistic measures the overall fit of the model and is multiplied by the number of observations. In this case, ObsR-squared is 14.50801 with a probability of 0.4874 (Prob. Chi-Square (15), indicating no strong evidence against homoskedasticity. The Scaled explained SS is another measure of the explained sum of squares scaled by the number of observations. In this case, the associated probability is Prob. Chi-Square (15) = 0.9708, suggesting no strong evidence against homoskedasticity. Summarily, the results from the Heteroskedasticity Test based on the Breusch-Pagan-Godfrey test do not provide strong evidence against the null hypothesis of homoskedasticity. The F-statistic and associated probabilities suggest that the variance of the residuals is constant across observations. Researchers may conclude that there is no significant heteroskedasticity present in the model, although it is advisable to interpret these results cautiously and consider additional diagnostic tests to ensure the robustness of the regression analysis.

STABILITY TEST:

Fig 1: CUSUM (Cumulative Sum)

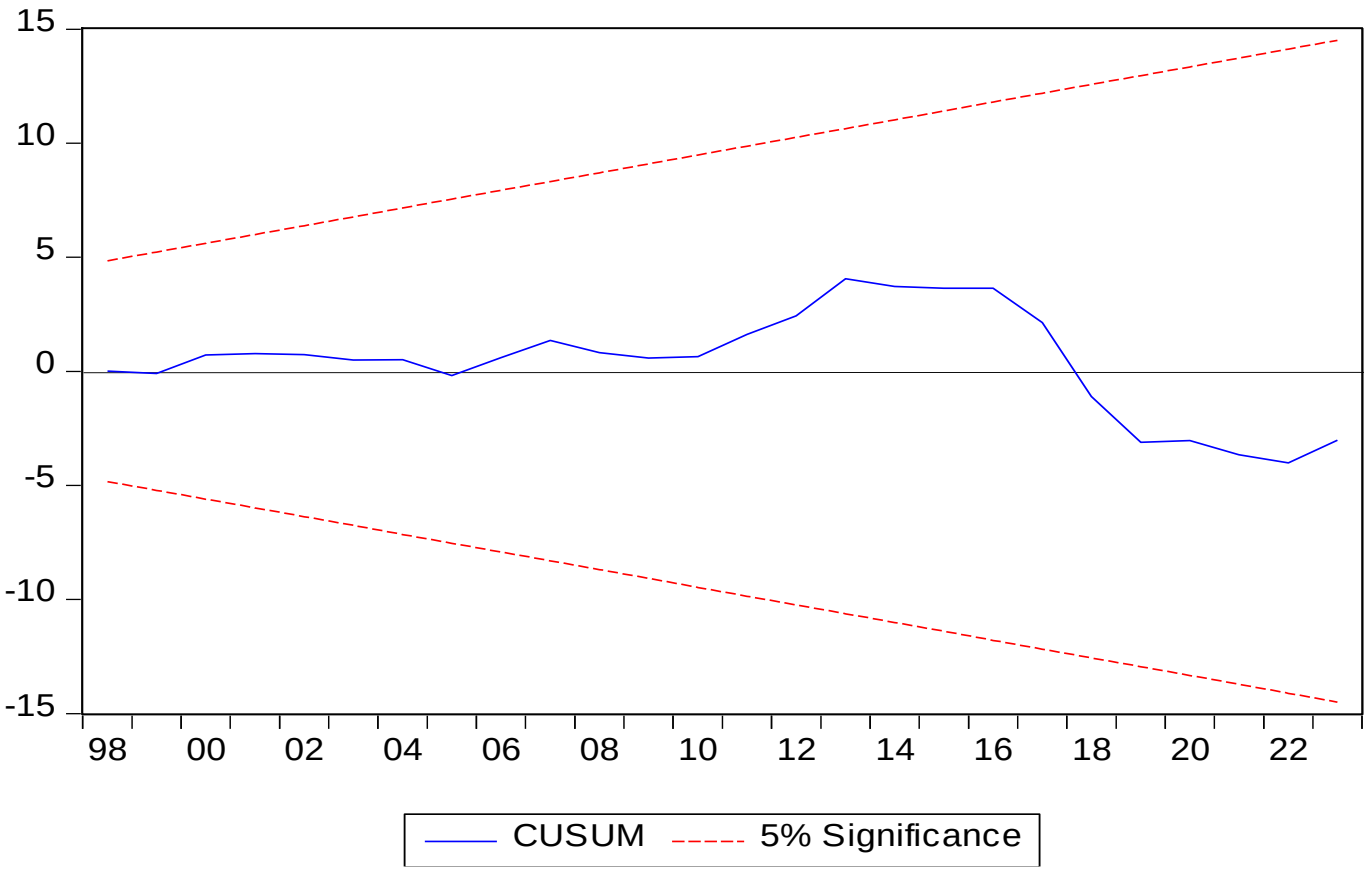
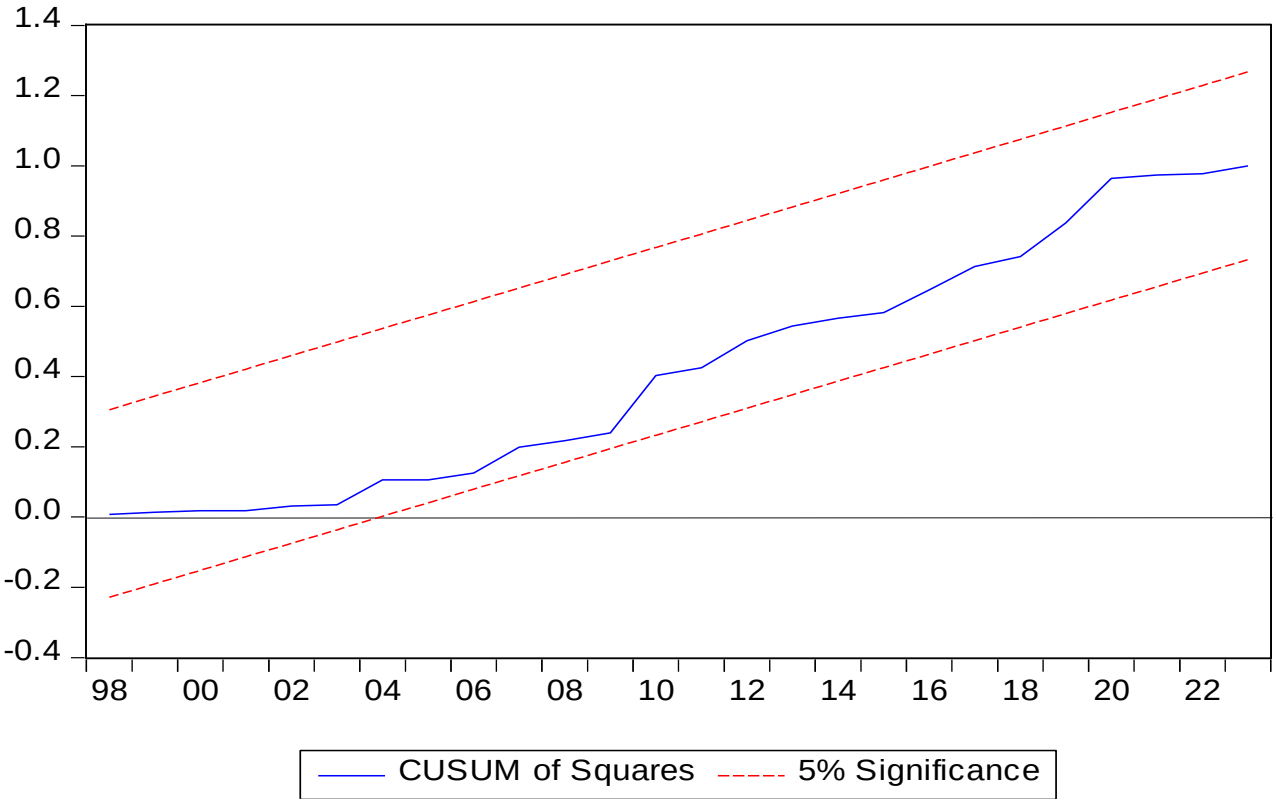


Fig 2: CUSUM of Squares



The results from the stability test in Figure 1 and 2 reveals that the ARDL short-run model is relatively stable and has passed the entire diagnostic test. Both the CUSUM and CUSUMSQ tests suggest that there is no evidence of autocorrelation in the results at the 5 percent level of significance.

CONCLUSION AND RECOMMENDATIONS

This study investigated the nexus between small and medium scale enterprises (SMEs) development and economic growth in Nigeria, with an emphasis on the moderating role of institutional quality. The empirical findings reveal that SME credit, institutional quality, and capital formation have significant positive effects on economic growth in the long run, while inflation and the interaction between SME credit and institutional quality exert negative influences. These results suggest that although access to finance is critical for SME-driven growth, its effectiveness is diminished in the presence of weak institutions, such as high levels of corruption and rule of law inefficiencies.

In light of these findings, the study recommends that policymakers strengthen institutional frameworks by implementing robust anti-corruption measures, enhancing regulatory transparency, and improving governance structures. Improving access to SME financing through development-focused credit schemes, financial inclusion initiatives, and supportive lending policies is also essential. Furthermore, capital formation should be actively promoted through increased investment in infrastructure and productive assets. Integrating SME development strategies into national economic planning, with particular attention to institutional quality, will help ensure that the growth-enhancing potential of SMEs is fully realized and contributes to sustainable economic development in Nigeria.

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